The **final version** of the *Collaboration Platforms Special Interest Group Interim Report* as of September 19.

Contents

Introduction

Some agencies have begun to deploy collaboration platforms (for example, SharePoint and MassForge), while others are considering doing so or are interested in finding out more about these systems. The Commonwealth's IT Council formed the Collaboration Platforms Special Interest Group (SIG) to explore state agencies' current and potential usage of collaboration platforms and to provide a forum for information sharing and developing recommendations on enterprise collaboration platforms and standards.

Definition of Collaboration Platforms

Based on the SIG's initial research, the industry does not have a single, commonly used definition for "collaboration platforms." Gartner defines them as "persistent virtual environments where participants can create, organize and share information, as well as interact with each other." According to Wikipedia, collaboration platforms are "unified electronic platforms that support synchronous and asynchronous communication through a variety of devices and channels. [They] offer a set of software components and services that enable individuals to find each other and the information they need and to be able to communicate and work together to achieve common business goals."

The Team adopted the following definition:

> A collaboration platform is a persistent and unified virtual environment where participants with a common interest can create, organize and share information, by interacting with each other using a variety of devices and channels in a synchronous (real time) or asynchronous (not real time) mode to achieve a mutual business goal.

Essentially, a collaboration platform is an online environment where participants with a common interest can create, organize and share information by interacting with each other using a variety of ways to achieve a mutual business goal.

Examples of collaboration platforms include Microsoft's Sharepoint, EMC's Documentum eRoom and SourceForge Enterprise Edition. Collaboration tools may include some combination of the following:

- Team collaboration (file synchronization, ideas and notes in a wiki, task management, full-text search)
- Messaging (email, calendaring and scheduling, and contacts) - either natively, or interoperable with existing systems
- Real-time collaboration and communication (e.g., presence, instant messaging, Web conferencing, application / desktop sharing, voice, audio and video conferencing)
- Web 2.0 or "social computing" tools (e.g., blog, wiki, tagging, RSS, shared bookmarks)

What is Web 2.0?

Web 2.0 is a term describing changing trends in the use of World Wide Web technology and web design that aims to enhance creativity, information sharing, **and, most notably, collaboration among users**. These concepts have led to the development and evolution of web-based communities and hosted services, such as

social networking sites, video sharing sites, wikis, blogs, and folksonomies. [1] (See Appendix B for definitions of these tools.)

Enterprise 2.0 is a term coined by Harvard Business School professor Andrew McAfee in 2006 in his paper: Enterprise 2.0: The Dawn of Emergent Collaboration[2]. It refers to social software used in "enterprise" (business) contexts. It includes social and networked modifications to company intranets and other classic software platforms used by large companies to organize their communication. In contrast to traditional enterprise software, which imposes structure prior to use, this generation of software tends to encourage use prior to providing structure. In McAfee's paper, he developed the following acronym to describe the types of Web 2.0 software that are being made available in enterprises:

- ◊ S - Search
- ◊ L - Links
- ◊ A - Authorship (wikis, blogs)
- ◊ T - Tags
- ◊ S - Signals (RSS)

More than sharing documents

Many people think of collaboration as centered around shared documents. But this places form over substance. Documents are just a static collection of a number of different moving parts of any group activity at a specific point in time, and are immediately out of date when they are produced. Status reports, for example, are simply summaries of the current state of the various items germane to that initiative or project.

Collaboration should be centered not around documents, but around the underlying work being done. Most work is organized around a given set of requirements, whether it is the development of a new law or regulation, or new software. There are tasks and issues, discussion and disagreement, and lots of work, but eventually a consensus emerges and decisions are made. Maybe there are defects to be fixed, action items to be tracked, approvals to be granted, code to be written or tests to be performed.

When the parts of work are maintained as individual content components at a discrete and granular level (artifacts) - e.g., requirements, issues, action items, defects, policies, procedures or tasks -- they take on a more dynamic nature, making the project more transparent and easier to manage. Discrete artifacts are more accessible, searchable, organizable and manageable. Their evolution is available so that history is not lost and changes can be tracked by contributors. They can be assigned and owned individually and their current state and status determined. Their approval can be requested and tracked. They can be prioritized and related and grouped. They can offer opportunities for sensible new perspectives. Items can be looked at in terms of time in state, workloads for individuals and groups, issues and activities across project domains, or patterns of issues in a given domain. Eventually, when necessary and appropriate, they can be aggregated into a document which can be versioned and shared. Finally they are available for reuse as situations change or new opportunities are presented.

Collaboration Platforms Special Interest Group Charter

The Collaboration Platforms Special Interest Group of the IT Council was organized to provide a forum for information sharing and development of recommendations regarding collaboration solutions. The SIG's charter and major goals are to:

1. Examine the ways in which agencies are using or would like to use collaboration tools, both internally and to cross organizational boundaries.
2. Identify internal agency challenges to successful adoption and implementation including change management and policy issues.
3. Share information about vendor products, licensing, procurements, implementations, organizational issues, change management and policy, as well as external challenges to successful adoption and implementation
4. Identify areas where enterprise-level policy, standardization or guidance is needed to ensure interoperability, consistency, regulatory compliance and best value for the Commonwealth
5. Identify products/solutions and implementations that can be shared across agencies
6. Produce an interim report by June 30 summarizing the group's findings on the points above (postponed to September)

Summary Findings

1. Use of Collaboration Tools

Group members examined the ways in which agencies are using or would like to use collaboration tools, both internally and across organizational boundaries.

We reviewed industry literature; shared our own experiences in team meetings; and conducted a survey of Commonwealth agencies. In addition, we invited a guest speaker from the U.S. intelligence community to share his experiences with the highly successful Intelink/Intellipedia collaboration suite.

Highlights of Literature Review

According to an article by Michael Sampson in "Messaging News," there are "Seven Pillars of Collaboration"[3]:

1. Shared access to team data
2. Location-independent access to team data, people and applications
3. Shared real-time viewing of documents and presentations
4. Coordinating schedules with "team aware" scheduling software
5. Building social engagement through "presence" (indicators of who is online at any given point in time), blogs and instant messaging (IM)
6. Enterprise action management
7. Broadening the network through automatic discovery services

According to Gartner in "Why Every Enterprise Needs a Real-Time Collaboration Architecture"[4], the real-time component of collaboration is becoming increasingly important:

> Information workers often work with others, but work among teams is increasingly done in different locations and often different time zones. Quick access and communications with remote workers are critical to getting work done in a timely manner. With e-mail becoming an overload zone, users are looking to real-time modes to interact with other workers. IM has been a primary way of doing that.

The May 2008 issue of Governing Magazine, "Working in Wiki"[5], by Ellen Perlman and Melissa Maynard, cites examples of the successful use of wikis in government and emphasizes the need for state and local governments to incorporate wikis into their technology solutions for business communications and collaboration:

> People who learn how to harness wikis and other new tools to the benefit of government, notes Mark Forman, a partner and IT adviser at KPMG, "will be hailed as the next great visionaries." His underlying point: Governments can either play an active role in transforming themselves or wait and let change hit them. Either way, it's coming.

Team Feedback

SIG members represent a varied perspective on the uses of collaboration tools. Through brainstorming, group members developed a high-level list of desired outcomes and features, and the types of tools that would support them, based on their current and desired uses of collaboration technology:

Outcomes, benefits	Features, requirements, use cases	Tools, functions
• Improve information retrieval, realize more efficient knowledge management • Achieve consensus more efficiently; achieve broader consensus; produce higher quality end products • Improve business process efficiency • Produce more efficient communication and information sharing, and fewer emails and meetings • Allow people with common interests to find each other and share information and best practices • Achieve improved, more efficient allocation of resources • Harness more of the talent and knowledge of the organization • Recruit/retain "net generation" staff • Create more open, transparent organizations	• Group creation, editing, sharing and discussion of: ♦ Living "articles" (e.g., training manuals; encyclopedic "topical" articles; FAQs; project plans) ♦ Finished products (e.g., laws, regulations, policies, RFPs, memos) that remain relatively static over time • Chronological discussions of trends, published articles, current events, pesonal viewpoints • Workflow management (manage handoffs for repeatable processes) • Project and resource management • Issue tracking • Task management • History of changes to "artifacts" - issues, tasks,	• Wikis • Document/content management systems • Blogs and discussion forums • Instant messaging, online "presence" indicators • Video/web conferencing • Miscellaneous widgets and plug-ins (issue trackers, task trackers, calendars, surveys, video sharing, picture sharing, social tagging) • Specialized suites such as MassForge (SourceForge), Clarity, Sharepoint and Intelink -- which may bundle some or all of the preceding tools and widgets

and processes	discussions, articles, documents, etc. -- who changed what, when; versioning of articles and documents • Openness, transparency, through collaboration, self-reporting • Real time communication/collaboration between remote entities • Profiling ability to capture skills, roles and user activities	

Feedback from Commonwealth Agencies

To gain a broader perspective on current and potential agency uses of collaboration tools, the SIG developed an online survey in SharePoint (the SIG's own collaboration site) and emailed requests to department heads and members of the CIO Council asking for distribution across their agencies. We posted the survey for two weeks and received 279 responses from agencies representing all three branches of state government.

At a high level, the survey results indicate:

- Over 56% of respondents hold senior/middle management positions.
- The majority of respondents report average or better proficiency in office computer systems
- Most collaboration is conducted within agencies, with limited collaboration outside the agency
- There is strong interest in collaboration technology

Top uses for collaboration tools are:

- Real and virtual discussions to arrive at consensus - 93%
- Messaging, communications, announcements - 90%
- Issue tracking - 87%
- Shared authoring - 84%
- Document repository, information sharing - 83%
- Video/web conferencing - 73%

As an added benefit, many respondents report that they could avoid some travel by making use of online collaboration tools.

For a summary of responses to all survey questions, please see Appendix A.

The Intelink/Intellipedia Experience

In June, one of our group members was privileged to attend a conference at the Kennedy School of Government (co-sponsored by the authors of *Wikinomics: How Mass Collaboration Changes Everything*), at which Chris Rasmussen, social software knowledge manager and trainer within the U.S. Intelligence Community, spoke about the community's experience with Intelink, a collaboration platform that includes

Intellipedia, a wiki for sharing information on topics related to national security, and other Web 2.0 tools (blogs, social tagging, video sharing and more). We invited Mr. Rasmussen, who was selected as one the "Federal 100" by Federal Computer Week in 2008, to chat with the team about how U.S. intelligence agencies are using wikis and other social software for amazingly open and prolific collaboration.

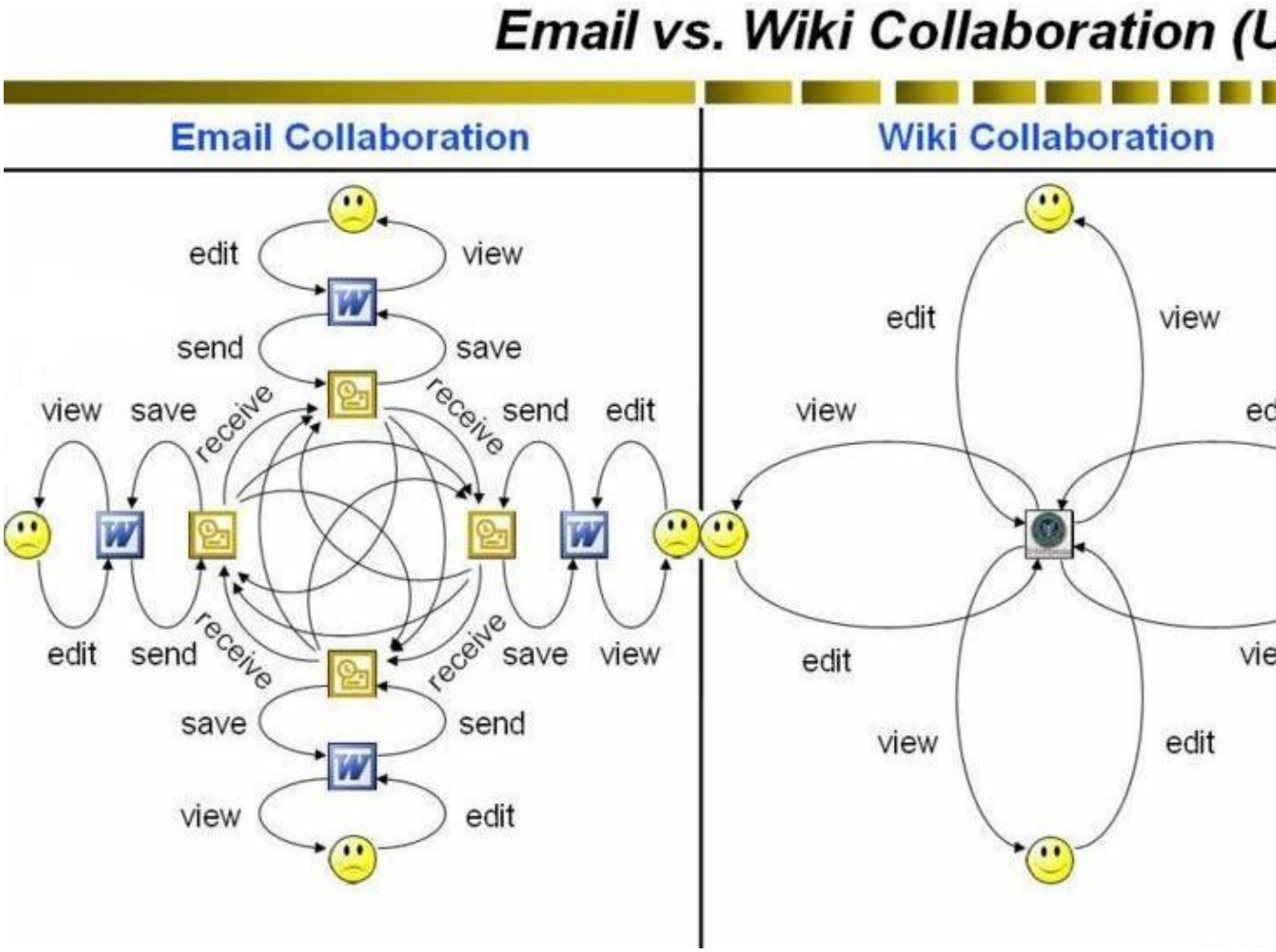
As described by the National Academy of Public Administration[6], Intellipedia was a response to a clear business need:

> "In response to intelligence missteps leading up to 9/11 and the Iraq War, the Office of the Director of National Intelligence (ODNI) sought to build a flatter U.S. Intelligence community better equipped to coordinate and share classified surveillance information. ... In April 2006, ODNI, under the leadership of John Negroponte, launched 'Intellipedia,' an online peer-to-peer collaboration system built on [the same open-source software used by Wikipedia] that allows analysts as well as other relevant personnel such as engineers, librarians and human capital specialists from all 16 U.S. intelligence agencies to establish a common operating picture through the federal government's classified Intelink Web. Intellipedia, commonly referred to as the 'spooks' wiki, is not available to the public and is presently divided into three classification categories, ranging from 'sensitive but unclassified' to 'top secret.' This tool allows users to share information by creating, editing, and discussing articles in an online space that is both topically-focused and agency-neutral.
>
> Unlike the largely anonymous environment of Wikipedia, ODNI's collaborative tool requires all online participants to include their name and organization when they submit a contribution or an edit. This aspect of the approach is critical for providing accountability to the intelligence evaluation process in the event that assessments are proven to be faulty."

Mr. Rasmussen, always seeking to expand the reach of Intellipedia, invited our group members (and anyone with an official Commonwealth of Massachusetts email address) to register to use Intelink and Intellipedia -- so that we might gather more information about the Intelink/Intellipedia experience, and so that Massachusetts government officials might participate in the intelligence gathering and homeland security activities of Intellipedia.

Since registering, we have gleaned many extremely valuable insights and even established a "Team Massachusetts" blog on Intelink, which several "Intellipedians" and Commonwealth employees have contributed to. We have since launched an experimental wiki which borrows extensively from the Intellipedia model-- CommonWiki. Our group, and a handful of other groups, are currently using this wiki as a collaboration platform.

Although there are many selling points for wikis and other collaboration tools, the one Mr. Rasmussen thinks is most straightforward is improved content authoring and reduction in email. He and other Intellipedians and wiki proponents often use the following graphic to visualize the inherent inefficiencies of email when collaborating on a document; collaboration via e-mail creates multiple copies of a document which are then edited separately. This often causes a headache when it comes time to integrate all the different edits contained in multiple versions scattered in one's email inbox, or finding the most current one if done sequentially.



2. Challenges to Implementation

The introduction of collaborative technologies will change the way people conduct business. The transition from traditional business collaboration to Web 2.0-enabled business collaboration is one that will stretch the skill levels of some workers, while others will easily adapt. Most people in the workplace today are information technology (IT) workers, at some level. Use of email has become a very common and comfortable tool in the workplace, and is widely adopted today. However, that was not always the case.

With evolving technology, many employees have experienced workplace transition over the past few years. For example, many no longer depend on clerical staff to type up their notes or documents, but rather have learned how to create, manage, and store information themselves.

Many staff will embrace collaboration technologies, but some will require more orientation and mentoring, not just in the technologies themselves, but in the new ways of doing business. Employees have worked in a face-to-face collaboration environment for decades fostering a certain level of trust. Transitioning to open collaboration environments requires building a different type of relationship. A face-to-face collaborative environment allows people to respond to body language as well as words. A person can see a response in body language and may choose to phrase a statement differently than they would if using an alternative method. This has often been a problem with email, trying to communicate without being misinterpreted.

In addition to training staff to work and communicate differently, we will need to evaluate our organizations' ability to foster collaboration. Often projects/communications are developed in a very insular workgroup to prevent misinterpretation of by constituents or employees, until a more solid draft or final version is completed.

In identifying challenges surrounding adoption of Web 2.0 and collaboration technologies, the team drew upon the experience of several team members who had already implemented (or were in the process of implementing) collaboration platforms. The team identified the following challenges and policy issues to be addressed by each organization and/or the enterprise as a whole, in order to ensure successful adoption and implementation of collaboration and Web 2.0 tools.

Culture Change

It is important not to underestimate the importance of culture change. In the transition to the use of Web 2.0 technologies, a number of challenges may emerge that have little to do with actual technology. The following is a list of lessons learned that will encourage the best use of collaboration tools:

- Users should be bold in updating content and understanding when others modify your content
- Collaboration tools require persistence to break old habits like using email to discuss ideas or collaborate on a document.
- Users need to develop a level of comfort with social networking tools. Offer gentle encouragement.
- Early adopters, project leaders and sponsors should clearly model the new behavior, and recognize the need for change management to alter current collaboration behavior and culture
- Participant diversity should be encouraged when setting up an open collaboration project supported by a wiki.
- Foster "gardening" over "governance".
- Be patient with new users--trial and error should be encouraged. Many users will need time to adjust to the new technology.
- User guidance should be provided to start, but the environment should stay free-form and user-controlled to maximize benefits.
- Provide education and training for staff regardless of level of computer expertise
- Secure buy-in from users by demonstrating how the tools enable them to do their work
- Be aware that knowledge management is usually ongoing without a definite end date

Using the Right Tools

It is important to match the right tools to the collaboration style that underlies a given business activity, even though this may lead to multiple tools for a variety of activities. For example:

- Be aware that one project, such as new product design, may involve different collaboration styles at each stage of its life cycle.
    - For example, a best practice in customer service may start as an unstructured brainstorming discussion, then turn into a personal proposal, and finish as formal policy after revisions and iterations.
- Acknowledge value in blending several collaboration styles in the same collaboration support environment. This trend is particularly visible in open-source collaboration products.
- Recognize types of collaboration based on differing levels of need

Access and Security

It is also important to define access and security requirements to achieve the maximum efficiency from your collaboration tools. Be sure to:

- Determine support issues/permissions for access for users outside MAGNet
- Manage privacy and security issues
- Manage identities and logins
- Design integration to existing data stores
- Determine whether/how users not in existing data stores will be accommodated

Technical Requirements

It is important to recognize resource demands in determining how best to implement collaboration tools at individual agencies and achieving scalability. The team makes the following suggestions to agencies looking to expand their options to include Web 2.0 technologies and collaboration platforms:

- Identify a sponsor within senior management
- Establish a collaboration coordinator
- Identify collaboration supporters
- Begin with small steps
- Find an opportunity where better collaboration would make a difference
- Publicize successful collaboration projects

3. Vendor Products, Licensing and Procurements

The team will continue to address the issues of vendor products, licensing and procurement issues in upcoming meetings.

4. Enterprise-Level Benefits

It will be important to identify areas where enterprise-level policy, standardization or guidance is needed to ensure interoperability, consistency, regulatory compliance and best value for the Commonwealth, and the team believes more study is needed to identify all the issues in these areas. However, the following benefits to an enterprise approach were identified during discussions:

- Choosing common platforms hosted at the enterprise level has the benefit of standardization
- Common platforms allow agencies of all sizes to benefit without each having to fund the whole cost of an application alone
- Upgrades are easier to manage and ensures all users are using same version
- Common platforms leverage the Commonwealth's buying power (discounts are usually better for enterprise licenses vs. individual licenses)
- Employees transferring between agencies are not required to learn new tools each time they move
- Cross-agency projects and collaboration are easier when everyone is using the same tool set.
- Archiving and record retention issues can be handled in a consistent method when done at the enterprise level
- Common platforms allow the Commonwealth to tap the "Knowledge of the Masses".

5. Enterprise-Level Solutions

In an effort to identify some enterprise-level solutions, two collaboration platforms that had previously been installed were demonstrated for the team. In addition, another solution--CommonWiki--was configured as part of the Special Interest Group's research. The three collaboration platforms are:

- MassForge
  - SourceForge Enterprise Edition (http://www.collab.net/products/sfee/)
  - Administrator: Rich Wolverton (EHS)
  - URL: https://massforge.state.ma.us/sf/projects/collaboration_platform_sig
- SharePoint
  - Microsoft SharePoint (http://www.microsoft.com/Sharepoint)
  - Administrator(s): Andrew Larrimore (ITD) and Jean Calixte (OCA)
  - URL: http://collab-massgov.itd.state.ma.us/gg/CPSIG/
- CommonWiki
  - MediaWiki (http://www.mediawiki.org)
  - Administrator: Tim Vaverchak (ITD)
  - URL: http://wiki.itd.state.ma.us/

These sites provided limited exposure to each product's features, and a more formal investigation into these options and other technology and solutions is required to fully understand the financial, organizational and technical feasibility of enterprise-wide implementation. This will be addressed in the next phase of the Special Interest Group's work; please refer to "Next steps" section below.

MassForge

This is a summary of the MassForge implementation at the Massachusetts Office of Human Services:

- Strong focus on IT development collaboration, but has since become more widely adopted at the agency for other business collaboration needs
- 60 active projects, 700 users
- Used for application development projects and internal application support activities. Exploratory work with other types of projects
- Customizable trackers for issues, action items, etc. that can be associated with tasks, documents and other artifacts.
- Provides discussion forums with integrated email posting
- Highly scaleable
- Integrated security model based on roles and permissions
- Geared toward the technical and power user. Occasional and casual users will require greater levels of training
- Provides templates in support of the application development methodology employed by EOHHS
- Posting of documents to MassForge is required for QA checkpoints and production deployment
- Extensive custom reporting in support of project and team management

SharePoint

This is a summary of the SharePoint implementation at the Massachusetts Office of Consumer Affairs and Business Regulation:

- SCA recently implemented Microsoft Office SharePoint Server (MOSS) 2007 and expects to realize additional benefits due to the added features and improved functionality that are a part of this upgrade.
- Immediate benefits of the deployment include reduced time to production of basic web applications (item tracking), better stability and scaling options, reduced demands on IT administration, and improved searchability of agency data on SharePoint, file servers, and other enterprise systems.
- Features include: enterprise search, built in RSS/email alerts and other Web 2.0 capabilities, document libraries, project sites, calendars, security, integration with database reporting, basic document management
- Some agencies are more prolific users of SharePoint than others
- SharePoint features a Microsoft Document centric approach
- SharePoint has strong integration with Microsoft-based IT Ecosystem

CommonWiki

As a result of research and investigation done by several Special Interest Groups, one of the members created a wiki, known as CommonWiki. These are some of the features of CommonWiki:

- Based on Intellipedia experience
- Focus on "need to share" rather than "need to know" information
- Little-to-no restrictions on viewing content
- Integrated discussion capabilities - "talk pages" -- powerful tool for iterative collaboration but requires retraining of users to implement properly
- Training required for all users regardless of technical capabilities
- "Need to Share" paradigm and total openness of wiki system can be a barrier to adoption
- Focus on content over presentation is essential
- Focus of system on topical conversations that allow for many different contributors and discussions as opposed to specific organizational or project focus

Recommendations and Next Steps

This interim report represents the thinking of the Collaboration Platforms Special Interest Group to date. Over the last 6 months the group has exchanged information on various collaboration platforms, researched others, and surveyed state agency personnel to get a glimpse of their thinking on the subject. Much more needs to be done, however, to learn more about these tools and to make recommendations on their applicability across the Commonwealth. Several recommendations for next steps are listed below:

- Establish a technical review committee to investigate technical solutions, products, licensing and procurements
- Conduct additional research on collaboration tools and platforms
- Coordinate product vendor demonstrations for market leaders, including open source solutions
- Identify best practices in other states and private sector, along with implementation options
- Determine organizational, technical and financial feasibility of implementation at the:

    - Enterprise level
    - Departmental level
- Make final team recommendations

Group Meetings and Membership

The co-chairs of the Collaborations Platforms Special Interest Group are: Nancy Burke, Director of Management Information Systems at the Operational Services Division (OSD) and Susan Parker, Director of Mass.gov at the Information Technology Division (ITD)

The Collaborations Platforms Special Interest Group held its first meeting on February 28, 2008, and meets Thursdays on a roughly biweekly basis from 1:30 PM to 3:00 PM through August. The future of this group will be determined after publication of this interim report and after input from the IT Council is solicited.

Contributing Members and Their Agencies

- Nancy Burke, Co-Chair - Operational Services Division
- Susan Parker, Co-Chair - Information Technology Division, Mass.gov
- Sarah Bourne - Information Technology Division
- Jean Calixte - Office of Consumer Affairs and Business Regulation
- Bryan Clain - Massachusetts Emergency Management Agency
- Joan Clark - Early Education and Care
- Jacquie Doherty - Department of Environmental Protection
- Andrew Fanguiaire - Merit Rating Board
- Evelyn Hyde - Executive Office of Transportation and Public Works
- Jane Kadlubkiewicz - Information Technology Division
- Andrew Larrimore - Information Technology Division, Mass.gov
- Diane Szulc - Office of the State Auditor
- Tim Vaverchak - Information Technology Division
- Rich Wolverton - Health and Human Services

Appendix A

Collaboration Survey Response Request

```
From: Parker, Susan (ITD)
Sent: Thursday, May 15, 2008 3:34 PM
To: OSC-DL-Department Heads; ITD-DL - CIO Council
Cc: Burke, Nancy (OSD)
Subject: Please help us shape strategy on IT-based collaboration

Dear Colleague,

The Information Technology Council for the Commonwealth is investigating how information
technology can be used to improve workplace collaboration.
```

We'd like your feedback on the way you work now, and your thoughts on how it could be improved with more IT-based collaboration.

Please give us your honest, and anonymous, feedback. In order for us to get a broad perspective across state government, please share this survey with those you work with and with those who work for you.

The survey can be found at this address:
http://collab-massgov.itd.state.ma.us/public/surveys/Lists/Commonwealth%20Agency%20Collaboration%20Survey/overview.aspx

We ask that you respond to this survey by Friday, May 30. If you have questions, please contact Andrew Larrimore at andrew.larrimore@state.ma.us.

Thank you in advance for taking the time to give us your input!

Nancy Burke (Operational Services Division)
Susan Parker (Information Technology Division)
Co-Chairs, Collaboration Platforms Special Interest Group
Information Technology Council

Survey Response Summary

The Collaboration SIG Survey consisted of 19 questions, crafted to elicit feedback from agency users at all levels concerning their current and desired use of collaboration tools.

The following summaries the results of the survey:

- 279 responses were received
- 45% of respondents were from the Executive Office of Energy and Environmental Affairs
- 43% of respondents indicated their position as staff or individual contributor.
    - ♦ 24% self-identified as Senior Management and
    - ♦ 33% as Supervisory or Middle Management
- 58% of respondents indicated they spend 0-20 hours in working collaboratively within their own agency or department with 45% indicating they work collaboratively between 7-20 hours per week;
    - ♦ 90% of respondents indicated they spend 0-20 hours in working collaboratively with other state agencies or departments with
        - ◊ 23% indicating they work collaboratively between 7-20 hours per week and
        - ◊ 67% indicating under 6 hours per week.
- 83% of respondents indicated they have 0-13 meetings each week,
    - ♦ 83% indicated their meetings are 5 or less minutes by foot and
    - ♦ 88% indicated their meetings are less than 20 minutes by car;
    - ♦ 42% do not call into any meetings within a normal work week, with
    - ♦ 50% indicating they participate in 3 or fewer calls per week
- Responses to whether there were 5 or more people in attendance at these meetings covered a broad spectrum from 0 to 100%
- Most respondents indicated the multiple purposes for their meetings were:
    - ♦ Team meetings,
    - ♦ Presentations or informational,
    - ♦ Meetings with business partners/constituencies
- Respondents listed a number of other collaborative activities aside from meetings and conference calls

    - managing work and work products in a manner transparent to team members and possibly others (sharing goals, timelines, project documents and tracking issues), sharing information and best practices
- 96% of respondents prepare, review or approve documents as part of their jobs
    - 94% use documents, manuals or guidebooks as regular reference and
    - 93% use both printed and online reference documentations
- Most respondents (100%) have used Outlook and shared network drives and 72% like(d) their experience;
    - 24% have participated in a WebEx event and liked it but 49% have not used it
    - 13% have used wikis and like them and
    - 1% have used Blogs and like them.
- Respondents listed approximately 40 other tools they have used or are using
- Respondents indicated they are using or would like to use collaboration tools for:
    - Shared document authoring - 84%
    - Discussions - 77%
    - Video/web conferencing - 73%
    - Issue Tracking - 87%
    - Messaging, communications, announcements - 90%
    - Document repository, information sharing - 83%
    - Shared calendar - 76%
    - Online surveys/voting - 51%
    - Other project management functions - 37%
    - Other functions suggested included:
        - Team room with secure login, chat and whiteboard, easy document uploads with a directory structure
        - Project manager
        - Workshop reservations from outside the agency, electronic grant applications from outside the agency, architectural drawings and photographs from outside the agency - for review and permanent storage
        - Shared results data tracking
        - Shared address books, document and software change tracking
        - Scanning of patient/resident electronic health records
        - Webcasts
        - Real project management software
        - Collaborative message boards
- Additional thoughts or comments from respondents included:
    - Open, available to non ITD staff and no chargeback
    - Shared calendar with other agencies
    - Identify management/authentication/authorization to allow public access yet maintain control
    - Video/teleconferencing to support telecommuting
    - Need sufficient storage space for large attachments
    - Topic based information directory for easy access
    - Video conferencing would be beneficial
    - Successful use of groupware requires changes to workplace practices which in turn requires a lot of staff time to figure out new practices, educate and train staff, get buy-in etc. This is the real effort involved and it is rarely budgeted for. Please don't forget about this all-important component of deployment as you think about groupware. To the extent you can provide "macros" or other templates for how to do common functions - as opposed to just "here's the IT capability".

Appendix B

Web 2.0 Technologies - Quick Reference of Terms

Blogs

A **blog** [7] (a contraction of the term web log) is a website, usually maintained by an individual, with regular entries of commentary, descriptions of events, or other material such as graphics or video.

- Entries are commonly displayed in reverse chronological order.
- "Blog" can also be used as a verb, meaning to maintain or add content to a blog.

Wikis

A **wiki** [8] is a collection of web pages designed to enable anyone who accesses it to contribute or modify content, using a simplified markup language.

- Wikis are often used to create collaborative websites and to power community websites.
- The collaborative encyclopedia, Wikipedia, is one of the best-known wikis.
- Wikis are used in business to provide intranets and Knowledge Management systems.
- Ward Cunningham, developer of the first wiki software, WikiWikiWeb, originally described it as "the simplest online database that could possibly work".
- "Wiki" is orginally a Hawaiian word for "fast".

Video sharing

A **video sharing** [9] service allows individuals to upload video clips to an Internet website.

- The video host will then store the video on its server, and show the individual different types of code to allow other to view this video.
- Because many users do not have personal web space, either as a paid service, or through an ISP offering, video sharing services are becoming increasingly popular, especially with the explosion of popularity of blogs, forums, and other interactive pages.

Photo sharing

Photo sharing [10] is the publishing or transfer of a user's digital photos online, thus enabling the user to share them with others (whether publicly or privately).

- This functionality is provided through both websites and applications that facilitate the upload and display of images.
- The term can also be loosely applied to the use of online photo galleries that are setup and managed by individual users, including photoblogs.

Podcasting

A **podcast** [11] is a series of digital-media files which are distributed over the Internet using syndication feeds for playback on portable media players and computers.

- The term is a portmanteau word from "iPod" and "broadcast", the Apple iPod being the brand of portable media player for which the first podcasting scripts were developed. Such scripts allow podcasts to be automatically transferred to a mobile device after they are downloaded.
- Though podcasters' web sites may also offer direct download or streaming of their content, a podcast is distinguished from other digital media formats by its ability to be syndicated, subscribed to, and downloaded automatically when new content is added, using an aggregator or feed reader.

Virtual worlds

A **Virtual World** [12] is a computer-based simulated environment intended for its users to inhabit and interact via avatars.

- Avatars are usually three-dimensional graphical representations of the user.

Social networking

Social networking [13] focuses on building online communities of people who share interests and activities, or who are interested in exploring the interests and activities of others.

- Most social network services are web based and provide a variety of ways for users to interact, such as e-mail and instant messaging services.
- Social networking has created powerful new ways to communicate and share information.
- MySpace and Facebook are the most widely used in North America.

RSS

RSS [14] is a family of Web feed formats used to publish frequently updated content such as blog entries, news headlines, and podcasts in a standardized format.

- RSS makes it possible for people to keep up with web sites in an automated manner that can be piped into special programs of filtered displays.
- The benefit of RSS is the aggregation of content from multiple Web sources in one place.
- RSS content can be read using software called an "RSS reader", "feed reader" or an "aggregator", which can be web-based or desktop-based.
- A standardized XML file format allows the information to be published once and viewed by many different programs.
- The user subscribes to a feed by entering the feed's link into the reader or by clicking an RSS icon in a browser that initiates the subscription process. The RSS reader checks the user's subscribed feeds regularly for new content, downloads any updates that it finds, and provides a user interface to monitor and read the feeds.

Mashups

A **mashup** [15] is a web application that combines data from more than one source into a single integrated tool.

- Mashup originally referred to the practice in pop music (notably hip-hop) of producing a new song by mixing two or more existing pieces together.

Widgets

A web **widget** [16] is a portable chunk of code that can be installed and executed within any separate HTML-based web page by an end user without requiring additional compilation.

- They are derived from the idea of code reuse.
- Other terms used to describe web widgets include: gadget, badge, module, capsule, snippet, mini and flake.
- Web widgets often but not always use DHTML, JavaScript or Adobe Flash.

Social tagging

Social tagging [17] (also known as folksonomy, collaborative tagging, social classification, social indexing and social tagging) is the practice and method of collaboratively creating and managing tags to annotate and categorize content.

- In contrast to traditional subject indexing, metadata is generated not only by experts but also by creators and consumers of the content.
- Usually, freely chosen keywords are used instead of a controlled vocabulary.
- "Folksonomy" is a portmanteau of the words folk and taxonomy, hence a folksonomy is a user generated taxonomy.

Micro-blogging

Micro-blogging [18] is a form of blogging that allows users to write brief text updates (usually 140 characters) and publish them, either to be viewed by anyone or by a restricted group which can be chosen by the user.

- Messages can be submitted by a variety of means, including text messaging, instant messaging, email, MP3 or the web.
- The most popular service is Twitter, which was launched in July 2006 and won the Web Award in the blog category at the 2007 South by Southwest Conference in Austin, Texas.

References

1. ^ "Web 2.0." Wikipedia, The Free Encyclopedia. 21 August, 2008. Wikimedia Foundation, Inc.
2. ^ https://www.intelink.govEnterprise_2.0_-_The_Dawn_of_Emergent_Collaboration.pdf

3. ^ Messaging News website, June 9, 2008 http://www.messagingnews.com/magazine/2006/01/features/7_pillars_of_collaboration.html
4. ^ Gartner, Research White Paper, Publication Date: 14 May 2007 ID Number: G00147992
5. ^ Governing, May 2008; website: http://www.governing.com/articles/0805wiki.htm
6. ^ http://www.collaborationproject.org/display/case/ODNI+Intellipedia
7. ^ "Blog" Wikipedia, The Free Encyclopedia. 21 August, 2008. Wikimedia Foundation, Inc.
8. ^ "Wiki" Wikipedia, The Free Encyclopedia. 28 August, 2008. Wikimedia Foundation, Inc.
9. ^ "Video sharing" Wikipedia, The Free Encyclopedia. 21 August, 2008. Wikimedia Foundation, Inc.
10. ^ "Photo sharing" Wikipedia, The Free Encyclopedia. 22 August, 2008. Wikimedia Foundation, Inc.
11. ^ "Podcast" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.
12. ^ "Virtual world" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.
13. ^ "Social networking" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.
14. ^ "RSS" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.
15. ^ "Mashup" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.
16. ^ "Widget" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.
17. ^ "Social tagging" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.
18. ^ "Microblogging" Wikipedia, The Free Encyclopedia. 20 August, 2008. Wikimedia Foundation, Inc.